# Task Assignment 99-001-00
# February 2003

## MANAGEMENT
## GSFC ATR - Dr. J. Green
## Raytheon ITSS Task Leader - L. Mayo
## Raytheon ITSS Group Manager - L. Mayo

**TASK OBJECTIVE:** The non-personal services required under this task include performing all necessary functions to manage Raytheon ITSS contract staff supporting the Space Science Data Operations Office (SSDOO). The Raytheon ITSS management team will meet with the SSDOO management team to discuss significant events and contract highlights to be presented to upper management and Headquarters, and current contract issues and concerns.

**SIGNIFICANT EVENTS:**

- Staff held weekly senior staff meetings.
- Staff attended Raytheon/government meeting.
- Staff supported local and national Botball.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Tuesday, 11-Mar-2003 16:43:19 EST [NAJ]*

# Task Assignment 99-003-00
# February 2003

## ASTROPHYSICS MISSION SUPPORT SERVICES
## GSFC ATR - Dr. N. Gehrels
## Raytheon ITSS Task Leader - Dr. J. F. Cooper
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** This task provides support and consultation services for the Compton Gamma Ray Observatory (CGRO) project scientist in areas of data management, analysis, and archiving for CGRP and for the HIC experiment on the Galileo spacecraft. This support includes attending GRO Science Working Group meetings, aiding target-of-opportunity decisions, monitoring the health of the spacecraft, and presenting GRO papers at scientific meetings. In addition, this task will provide consultation on data products from the HIC.

**SIGNIFICANT EVENTS:**

1. A poster paper on "The Space Physics of Life" was presented at the 2002 General Meeting of the NASA Astrobiology Institute at Arizona State University during February 10-12, 2003.

2. The task leader reviewed, as a collaborator, final versions of the lead science team proposal of I. N. Reid (STScI) to the NASA Astrobiology Institute on "Pathways to Habitable Worlds: The Astrophysics of Life" and made several changes relating to inputs on the Space Physics of Life theme. At the task leader's request, J. G. Luhman (UC-Berkeley), the IMPACT instrument Principal Investigator on the STEREO mission, was added to the collaborator list.

3. The task leader was notified by R. Greeley (ASU) of selection to the Science Definition Team for NASA's planned Jupiter Icy Moons Orbiter (JIMO) mission as part of the Prometheus program for development of nuclear power in space.

4. The task leader met with J. L. Green, S. F. Fung, and R. F. Benson (Code 692) to solicit ideas on applications of IMAGE spacecraft instruments to JIMO. Potential applications to radio sounding of satellite subsurface regions, satellite ionospheres, and the Jovian magnetosphere were discussed.

5. The data recorder on the Galileo Orbiter spacecraft was permanently turned off on February 28, 2003. The spacecraft will continue real-time data transmission for fields and particles instruments, including the Heavy Ion Counter, until final entry into the Jupiter atmosphere on September 21, 2003.

6. The New Horizons mission to Pluto and the Kuiper Belt was approved by the White House and Congress for final funding with expected launch in 2006. Task work on interplanetary irradiation of Kuiper Belt Objects can be applied to this mission.

7. Task staff reviewed EGRET data from the following viewing periods for EGRET scientist D. Bertsch (Code 661): QVP4010-9632-9642, 4020-9644-9650, 4025-9651-9656, 4035, 4040-9675-82, 4050-9685-91,

4055-9696-99, 4060-9704, 4070-9709-9720, 4080-9723-4, 4090-9730-9738, 4100-9742-9761, 4111, 4115-9772-4, 4120-9776-81, 4130-9784-9797, 4150-9819-9831, 4180-9843, 4191-9815-6, 4195-9847-9859, 4200-9861-74, 4210-9875-81, 4220-9881-88, 4230-9889-98, 4235-9899-9907, 4240-9910-9921, 4250-9925-9936, and 4260-9937-50.

**UPCOMING MILESTONES/EVENTS:**

1. The task leader will give an invited talk on heliospheric weathering of comets at the "First Decadal Review of the Edgeworth-Kuiper-Belt - Towards New Frontiers" workshop in Antofagasta, Chile during March 11-14, 2003.

2. The task leader will prepare a new Raytheon ITSS proposal to NASA's Planetary Atmospheres program on interplanetary plasma and energetic particle interactions with selected solar system bodies including Mars, Titan, and comets in the Kuiper Belt and Oort Cloud. The proposal is due April 18, 2003.

3. The task leader will attend the Arctic Field Ice Conference for the Europa Focus Group of the NASA Astrobiology Institute at Prudhoe Bay, Alaska during April 24-27, 2003.

**PROBLEMS OR AREAS OF CONCERN:** Task funding for EGRET support activities after March 2003 remains uncertain.

**RELATIONS TO OTHER TASKS:** Work on this task is being supplemented by support from the SSDOO project and by active research contracts at Raytheon ITSS from NASA's Jovian System Data Analysis and Planetary Atmospheres programs.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 10:17:24 EST [NAJ]*

# Task Assignment 99-101-00
# February 2003

## AMASE-MOCHA-CONCAT DEVELOPMENT
## GSFC ATR - Dr. C. Cheung
## Raytheon ITSS Task Leader - E. Shaya
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** This task provides support for the development of the object -oriented data base multispectral astrophysics data catalog, AMASE (Astrophysics Multimission Archive Search Engine) as an interface to NASA's astrophysics data holdings. This effort is a collaborative one with the University of Maryland (UMD) Computer Science Department, and frequent interactions with UMD counterparts are expected. The general goal for this performance period is to develop the AMASE prototype into an astronomical search and discovery engine by expanding the data contents and augmenting the search capabilities. Work includes incorporating astrophysics data from other wavelength bands to complete the electromagnetic spectrum and developing procedures to access remote relational data bases.

**SIGNIFICANT EVENTS:**

1. DSA:

   a. Staff worked on XML telemetry language for OMG RFP.

   b. Staff completed writing white paper summarizing 2002 work.

2. ANTS:

   a. Staff attended design meetings for ANTS software.

   b. Staff worked on outline of proposals to DARPA.

**UPCOMING MILESTONES/EVENTS:** OMG meeting March 25 - 27, 2003.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 10:19:54 EST [NAJ]*

# Task Assignment 99-110-00
# February 2003

## AUTONOMOUS TECHNOLOGY
## GSFC ATR - Dr. M. E. Van Steenberg
## Raytheon ITSS Task Leader - R. Dunlap
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The objective of this task is to support the development of a simulation environment that supports autonomous distributed spacecraft control and test science collection techniques using artificial intelligence (AI) technologies. This work is in collaboration with the GSFC's Guidance, Navigation and Control Center and JPL's Automation and Control group. The contractor shall support the following activities and contribute to reports and white papers as appropriate: (a) evaluate Science Quick-Look Analysis Tools (e.g., HEASARC) for use as on-board analysis tools, (b) define Typical Science-Driven Maneuver Automation Requirements, (c) define Typical Science Automation Requirements, (d) define Basic System Architecture, and (e) develop rapidly a prototype to demonstrate key capabilities.

**SIGNIFICANT EVENTS:** No work was performed on this task during the reporting period.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 16:25:07 EST [NAJ]*

# Task Assignment 99-113-00
# February 2003

## GLAST
## GSFC ATR - R. Fink
## Raytheon ITSS Task Leader - J. Palencia
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** GLAST is a multipartner gamma-ray survey mission with a GO observation component. The ADF will provide a prototype public archive design using Beowulf and other related technology. The prototype will implement the archive design using the Compton Gamma Ray Observatory EGRET data set. The contractor shall provide personnel to support the following tasks: (1) systems administration support of the Beowulf cluster and (2) programming support as requested for implementing the archive prototype.

**SIGNIFICANT EVENTS:**

- Staff implemented Parallel Virtual File System (PVFS) on raid disks on the prototype storage nodes of HPC's Beowulf Cluster, THUNDERHEAD.
- Staff gave a brief overview of the Bliss Beowulf Cluster on the 1st SSD00 Supercomputing Workshop.
- Staff provided system administration support for HPC's Beowulf Clusters (MEDUSA & THUNDERHEAD).
- Staff provided system administration support for MEDUSA Workstations (porpoise, corona, megha, bohr, frio, spf).
- Staff provided system administration and user technical support for the BLISS Beowulf Cluster.

**UPCOMING MILESTONES/EVENTS:**

- Staff is to design the Terabyte raided PVFS storage device for THUNDERHEAD.
- Staff is to create a user graphical GUI for LACE for HPC's Beowulf Cluster, THUNDERHEAD.
- Staff continues to write and work on her thesis.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 05-Mar-2003 15:17:46 EST [NAJ]*

# Task Assignment 99-201-00
# February 2003

## IMAGE
## GSFC ATR - R. Burley
## Raytheon ITSS Task Leader - C. Klipsch
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The objectives of the IMAGE Mission Data System task are to develop, test, and maintain the IMAGE Web data access and display system, the IMAGE data processing system, and the IMAGE data distribution system.

**SIGNIFICANT EVENTS:**

- Continue to maintain IMAGE Data Delivery Web site according to customer requests.

- Attended local seminar on Web site requirements for NASA/Goddard, and began adjusting site to achieve compliance with policy and regulations.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 05-Mar-2003 15:39:33 EST [NAJ]*

# Task Assignment 99-202-00
# February 2003

## MAGNETOSPHERIC MODELING AND ANALYSIS
## GSFC ATR - Dr. S. Fung
## Raytheon ITSS Task Leader - Dr. L. Tan
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** This task calls for (1) the performance of analysis supporting the development of a new generation of trapped radiation, (2) the documentation and analysis support in an ongoing SSDOO research program on the outer magnetosphere, and (3) ISTP campaign coordination.

**SIGNIFICANT EVENTS:**

1. Task staff reviewed a report by J. Gass (Raytheon ITSS) regarding the XML/Java work performed by the task intern and made recommendations for changes/corrections.

2. Task staff modified the query form and Perl script of the existed magnetospheric state parameter database to allow queries qualified by specifying the AE, Dst, and Bz values.

3. Task staff increased the ability of the prototype Web site, which was used to download the NOAA trapped particle data under specified magnetospheric state conditions, to access the trapped particle data obtained from the OHZORA spacecraft.

4. Task staff developed the analysis software to calculate the omnidirectional flux of trapped particles from the observed data obtained by the OHZORA spacecraft. Then the OHZORA data specified under extremely quiet magnetospheric state conditions (Kp<=1 and Vsw < 350 km/s) are compared with the NOAA data and with the NASA AP8/AE8 trapped radiation models. A significant difference was found between the observed data and the model predictions.

**UPCOMING MILESTONES/EVENTS:** Task staff is preparing three posters entitled "Characteristics of Quiet-Time Trapped Radiation Environment Deduced Under the Extremely Quiet Magneotospheric State Condition" (authors: S. F. Fung et al.), "Azimuthal Locations of Relativistic-Electron Injections Determined from Drift Echo Analysis" (authors: L. C. Tan et al.), and "Simulating the Transport of the Energetic Equatorial Particles to the Cusp Region from the Global MHD Simulation Outputs" (authors: X. Shao et al.), which are to be submitted to the EGS-AGU-EUG Joint Assembly 2003 to be held on April 6-11, 2003 in Nice, France.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 10:21:26 EST [NAJ]*

# Task Assignment 99-203-00
# February 2003

## SPACE SCIENCE VISUALIZATION FACILITY
## GSFC ATR - Dr. R. Kessel
## Raytheon ITSS Task Leader - J. Friedlander
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The task of the Space Science Visualization Facility within the SSDOO is to support the SSDOO education and outreach activities, scientific analyses, and IMAGE mission activities. Members of the facility will need to work closely with the space science community in order to create appropriate space science videos, illustrations, and displays and to develop overall approaches and procedures for the maintenance of the task.

**SIGNIFICANT EVENTS:**

1. Staff created graphic content for several SSDOO projects including:

   a. Illustrated four figures for the Space Science Data Operations Office (SSDOO) Chief to be used in an upcoming educational seminar.
   b. Illustrated three figures for the Space Physics Data Facility (SPDF) Head to be included in an upcoming published paper.
   c. Illustrated nine figures for Raytheon ITSS personnel to be used in an upcoming publication.
   d. Completed several revisions of book cover on Magnetospheric cusps and await further instruction.

2. Staff edited and reconstructed seven figures for the upcoming publication entitled "Observations of Guided Echoes in the Magnetosphere by the Radio Plasma Imager (RPI) on the Imager for Magneto-to-Aurora Global Exploration (IMAGE) Satellite mission", to fit into a smaller format.

3. Continued work on this years SSDOO Overview. Revised publications listings. Compiled kudos and awards section.

4. Staff took photographs of Dr. Steve Maran for use in upcoming publications.

5. Staff created Science Nugget for code 600 directorate monthly reports.

6. Staff re-rendered five animations for use in new VISLAB Web site

7. Staff created several versions of a black hole simulation for Dr. Ormes approval and use in upcoming talks.

8. Staff has completed several Web based tasks including:

   a. Completing updates and additions to the Web site for Sun Earth Day for March 20, 2003.

b. The DPS site has been completed and will be ready to present to the client in March 2003.
c. Work has begun to put a site together for the Space Sciences Visualization Lab (SSVL). The shell is together with some intro paragraphs. Staff will be populating some of the site with works from the lab in the next month.

9. Staff completed work on the Astrodata postcard and will assemble and deliver completed graphics to printer for publication.

10. Staff is assembling a new movie based on SOHO, IMAGE, Polar, and Earth based data describing the events of October 2002 that detail an actual Sun-Earth connection.

11. Work has been completed on the Visualization Lab explansion. A new floor plan has been approved.

**UPCOMING MILESTONES/EVENTS:**

1. Staff will complete a new movie based on SOHO, IMAGE, Polar, and Earth based data describing events of October 2002 that detail an actual Sun-Earth connection.

2. Staff will have a SSDOO Vislab Beta Web site available for review.

3. Staff will complete Several HDTV level simulations for use on the demo screen.

4. The Visualization staff will be moving back to it's second floor quarters.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Friday, 07-Mar-2003 14:50:02 EST [NAJ]*

# Task Assignment 99-204-00
# February 2003

## SPACE PHYSICS SOFTWARE DEVELOPMENT, SYSTEM MAINTENANCE, AND SPECIAL PROJECTS
## GSFC ATR - Dr. R. McGuire
## Raytheon ITSS Task Leader - T. Kovalick
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The objectives of the space physics development task are to design, develop, document, support, and promote the re-engineering of the SSC Software Systems and the CDAW Graphics Systems. These software systems will support Satellite Situation Center (SSC) Operations, ISTP SPOF, SPDS, STEP, other NASA projects, and the space physics community in general. Accomplishing this objective requires maintenance of the software in both a UNIX and VMS environment, use of appropriate software development tools and methods, development of concise documentation, definition of new magnetospheric field and region models, and communication with scientists and end users both at the NSSDC and in the larger space physics community to ensure that their needs and requirements are being met. This task will work closely with the CDF/graphics task to fulfill its responsibilities. CRUSO in particular will play an important user support role for both SSC and the CDAW Graphics System. It will serve as the first point of contact for users, distribute documentation, answer simple questions, and forward software and science questions to this task and to SSC Operations.

**SIGNIFICANT EVENTS:**

1. Work on CDAWeb Software: Staff continued working on the design work to support the CDAWeb "services" interface. Staff continued working with the IMAGE/RPI staff and further enhanced the plotting and listing capabilities for these datasets. Staff continued cleanup work on the CDFX suite of software and began work on some requested enhancements. Staff continued testing the software developed to implement a cdf merge/subset capability. Staff discovered, and is in the process of fixing, a few problems with the plot_map_images software with regard to the Polar VIS and UVI datasets. Staff continued investigating the geographic registration plotting problem with the Polar UVI/VIS image data.
2. CDAWeb Design and proposal work: Staff helped develop the L-1 Virtual Observatory proposal by attending several meetings and writing and reviewing some of the text.

3. Work on SSCWeb Software: Staff completed incorporating staff suggestions into the new calculator Web interface and underlying software; the program was made available on the Web in early February 2003.

4. CDAWeb Statistics: The statistics include GSFC, RAL, ISAS and EDC: CDAWeb fulfilled 8,232 plotting requests, 2,855 ASCII listing requests and 244 CDF delivery requests, where each request can contain more than one plot/listing/file; (RAL: 19, 7, 7), (ISAS: 57, 12, 1) and (EDC: 8, 0, 0); there were 103,364 total accesses (19.6Gb; 53,648 CDFs and 17,863 gif files produced) to the CDAWeb HTTP Server. The anonymous ftp site delivered 23.2 Gb of data; 41,225 CDF files and 47 software/document files to non-staff users. The "overall" ftp statistics file was updated and can be found at http://cdaweb.gsfc.nasa.gov/cdaweb/logs/FTPaccumulative_record.html. The monthly Web server and ftp statistics files can be found at http://cdaweb.gsfc.nasa.gov/cdaweb/logs.

5. SSC Statistics: Usage statistics from ubatuba, are as follows: There were 45 accesses of the SSC Version

3.0 Main Menu; Locator was executed twice; Query was executed once; the Data Base listing was not accessed; the Calculator was not accessed; the File Output option of the system was executed 43 times and the FTP option was executed 28 times.

6. Usage statistics for the Web-based versions of SSC Query and SSC Locator programs are as follows: The query_server was executed a total of 89 times; the tabular_server was executed a total of 535 times; the graphical_server was executed 2,078 times for a total of 2,702 accesses, excluding developers. In addition, the SPOF accessed the systems 21 times; SSC Operations staff accessed the systems 5 times. The SSC Web pages (main page as well as any GIF, user's guide, etc.) were accessed 10,708 times, with 68 accesses by SPOF staff and 198 accesses by SSC Operations staff. The new TIPSOD application was accessed 273 times with 2,588 accesses to the database.
7. Mirror Sites: RAL, ISAS and EDC are retrieving their provided data and software updates on a regular basis through their FTP accounts. Usage statistics were received from RAL, ISAS and EDC this month; these numbers were incorporated into the CDAWeb statistics listed above. An initial e-mail message was sent to the Brazilian scientists who are interested in hosting a mirror site.
8. Ingest/operational activities: The CDAWeb metadata generator and inventory plot generation software are being executed nightly. As part of this process, any new MAP, IMAGE, LANL, GOES, ACE, FAST, Polar, ISIS, Cluster and PWG (the new Polar/Wind/Geotail replacement for the CDHF) files are being "ingested" as well. In addition, the master cdf "notes" Web pages were updated each week.

9. SPDAC support: Staff completed working on requested enhancements to the database and associated Web interface to meet a new, Living with a Star, call for data.

**UPCOMING MILESTONES/EVENTS:**

1. A new RAID disk tower for the rumba machine is expected soon; plans are being made for its optimal configuration.

2. Staff will continue to work with the IMAGE project personnel to validate the CDAWeb displays of the IMAGE data.

3. Staff will continue testing and maintenance on CDAWeb and testing/enhancing all of the plotting and listing software.

4. Staff will continue testing, modifying, and documenting the CDAWlib software and associated Web pages.

5. Staff will continue testing and maintenance of the SSCWeb system.

---

Return to Table of Contents Page

---

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 10:23:46 EST [NAJ]*

# Task Assignment 99-205-00
# February 2003

## SPACE PHYSICS DATA ACQUISITION AND VALUE-ADDED SERVICES
## GSFC ATR - Dr. R. McGuire
## Raytheon ITSS Task Leader - Dr. H. Hills
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** The objectives of this task are four-fold: 1. to support space physics and information acquisition for NSSDC, including support for ingest to the near-line/on-line archive and/or for distribution as CD-ROMs; 2. to support value-added space physics services, including operation of the SSC, creation of new composite space physics data/model products, definition of science user requirements for SSDOO systems and other NSSDC data and information systems, and science-expert support for other efforts such as IACG and SPDS as appropriate; 3. to carry out selected archival research and mission planning activities, including publication of results; and 4. to provide logistics support as directed for working meetings related to SPDS, including travel reimbursement.

**SIGNIFICANT EVENTS:**

1. DIONAS INGEST:

   a. a. ISIS: Data inflow remains on hold. Bob Benson is being assisted in getting the pipeline started again.

   b. SAMPEX: All six usual datasets were routinely ingested into NSSDCFTP or CDAWeb successfully; routine sample checks showed no flaws.

   c. Wind/WAVES: Ingest of data continued smoothly into NSSDCFTP and CDAWeb.

2. OTHER DATA INGEST:

   a. Ulysses SWOOPS solar wind data sets were updated on-line and submitted to the off-line archive for January 2003 - February 2003.

   b. An ftp ingest account was requested and obtained from the data operations group for usage by the Ulysses gamma ray experiment team at UC-Berkeley.

   c. New data were received from MIT for wi_h1_swe data set. New CDFs were created and are awaiting a decision on what to do next.

   d. The sample of digital VLF data from IRM received from U. Iowa on CDROM was opened properly after correcting a minor flaw in their source code. An ASCII list could be produced both in the Sun machine and in Rumba (DecAlpha). After a few reminders, the Iowa provider (Bob Brechwald)

confirmed the ASCII version, just one day before he retired. Suggestions were provided to touch up their documentation. More such CDROMs from other spacecraft (INJUN5, IMP 6,8,HAWKEYE, ISEE 1,2, DE1 and S-Cubed) are expected in due course. The question of archival, where/how may be addressed in the next JSPAG meeting. Options are: convert to ASCII prior to archival, to archive the binaries along with the C-code and/or its executables, or to just archive the CDROMs as such.

3. Data Set Contacts:

a. Polar HYDRA:

Staff continued working with experimenter to prepare their data for CDAWeb. We have entered the CDFs into the test CDAWeb database. Email and phone conversations with J. Sartain (Iowa) discussed the data CDFs and the attributes. We are waiting for appropriate attributes. We have supplied many, but don't know the descriptions for some items.

On request, T. Kovalick implemented (in the CDAWeb development area) the plotting of off-scale low points at scalemin value for spectrograms, even if "noauto" is used. Then a second variation was implemented: if "noauto" is specified but SCALEMAX isn't given, then use autoscaling to determine SCALEMAX. This allows for user-specified scalemin, to set the background level, but still allow high values to be plotted by using autoscaling.

Added a virtual variable for the electron flux in po_ho_hyd CDF in the test database. The new flux uses auto scaling. This will demonstrate the virtual variable option, and also demo the conversion of offscale valid points into plotted points at the scalemin value, thereby eliminating the white background patches in the spectrogram, where fluxes are low. It also will allow the CDAWeb plots to be more similar to the PI's spectrograms in color range.

b. The suggestion of Brian Dennis (PS, RHESSI) to deep-archive their FITS file was passed on to R. McGuire. He has agreed, but forwarded it to D. Sawyer. Assuming Sawyer too is agreeable, the ingest will start soon with help from the operations group. The acqsci has been given an account in the hesperia machine which hosts the FITS data. Problems were encountered, not in login phase, but in getting response from the machine. It was finally solved, and the acqsci plans to familiarize himself with the software resources, enough to write the NMC entries. The data volume is about 2 GB/day.

c. D. Bilitza attended the TIMED science team meeting at APL February 11-13, 2003 and discussed the archiving of TIMED data at NSSDC. S. Nylund will send example netCDF files and IDL software to read these files.

4. Iowa VLG Data:

Working with Sardi on the Iowa VLF data, Sardi would like to create a ascii file from the binary. The provider provided us software to do this but it contained bugs. I fixed the bugs and generated a ascii file. Sardi would also like to make the software available to the public but there is some machine independent byte swapping needs to take place. Created a version of the software that currently works on nssdc(sun), rumba(alpha), and ndadsb(vms). The ascii file was sent to the provider and the numbers all check out.

5. ISEE 3 High-Resolution Magnetic Field Data After an e-mail inquiry was sent by acqsci, J. Wolf (UCLA) sent 25 CD-WOs with the rest of the hi-resolution ISEE 3 magnetic field data set. We now have 33 CDs, or

~16 GB, covering the whole lifetime of the s/c. A total of 15 cases (out of the 25 volumes) were listed where times were out of sequence. These will be corrected before insertion into DIONAS.

Generated ASCII data from the new flat-file data on CD, and examined the output. The data are written in variable-length records. Staff is considering processing the new files as fixed-length, and then re-processing the old files in the same manner, sending all through DIONAS. There is a reduction of confusion and a small savings of volume if the data are written fixed-length.

Still to be resolved is whether to use Fortran carriage control. We are considering using NONE or LIST for carriagecontrol, instead of FORTRAN (where there is a leading character, usually blank,that is not displayed but is used for carriage control).

6. SPDAC SUPPORT

Updates and Modifications to the SPDAC Web pages were provided as requested by McGuire/Candey.

Some touchups were made to the SPDAC entries for RHESSI and TRACE.

Entered a SOHO mission update into SPDAC.

Updated 13 Ulysses entries from J. Cooper into the SPDAC database, until he could gain access to the internal interface.

Numerous updates for TIMED were entered into the database.

An e-mail reply was sent to a TIMED TIDI team member explaining that the matrix slots for availability of data are automatically populated when Data Products are defined in SPDAC. The team member later submitted appropriate data product definitions through the external interface.

7. Maintenance of NSSDC Information Databases:

a. Several JGR and GRL journals were reviewed for TRF keywording. AGU is still catching up on bringing out the printed versions of its 2002 journals.

b. A database record was opened up for MEPSI, resulting from a user query regarding the lack of information from SPACEWARN.

c. Modifications to the Solar pages were made to: (1) ensure Sec. 508 compliance; (2) replace Joe King with Don Sawyer as the NASA official; and (3) make the pages HTML 4 compliant.

d. Because of the common use of Cluster-1, -2, -3, -4 by the investigators in publications, these names were inserted into NMC as alternate names for the specific four ClusterII spacecraft, except for Tango, which was already correctly numbered as Cluster-4. Request was made to E. Bell to further correct the numbering for Tango by removing Cluster-1, which had also been given as an alternate name).

8. SSC Ephemeris

a. Ephemeris information was created and updated into the SSC's UNIX data base for 31 spacecraft. Files for four spacecraft were updated for the [ACTIVE.IACG.ELEMENTS] directory.

b. A most fortuitous input came from the amateur astronomers who are on the lookout for Near Earth Objects. One of them, Peter Birthwhistle, had been spotting an object at about 30+ RE, and eventually concluded that it is probably a s/c, namely IMP 8. His finding of the RA and Dec was posted in a NEO Web site. Our attention was drawn to it by the President of the British Astronomical Association, Guy Hurst. Their data covered February 28, 2003 and March 1, 2003. The IMP 8 ephemeris in SSCWEB go only through 2002. Luckily, there is another version, named IMP8SHADOWS. It was worked out about 2 years ago, by factoring in the shadow/eclipse times. Comparing the RA and Dec of the s/c with the data of the NEO, the agreement was found to be close. Soon after, H. Franz (CSC, Code 500) submitted her predictions again based on the more recent eclipses.

   Her predictions agreed with those of the NEO much closer: exactly in RA and within 0.3 deg in Dec. That NEO is indeed IMP 8 ! Guy Hurst was notified and requested to work out Keplerians; further interactions will be handled by CSC.

9. The draft and final versions of SPX 591 were made available via WWW and FTP. SPX 592 was drafted and loaded online. It carries stories on two spacecraft. As usual, a copy of that was emailed to COSPAR. Three WDC SI announcements regarding the launch and assignment of IDs to four missions were sent by e-mail and posted to the Usenet News. Four CCSDS IDs were assigned for future mission/simulation telecommunications.

The CCSDS representative for NASA s/c was notified that IDs will be assigned only if it came from him, and in his name. (JPL staff has had an ongoing proclivity to request/ change/cancel/re-request IDs without even a designated person there.) This problem will hopefully be alleviated by strict insistence that request must come only from NASA rep at GSFC (now Mr. Roger Porter). Requests just forwarded by Porter's contractor staff (ITT) will not be deemed acceptable.

10. MAINTENANCE AND UPDATING ON THE VARIOUS WWW PAGES:

a. ModelsWeb
   1. The IRI-2001 software was updated and corrected responding to problems found by users. The new version software was loaded to nssdcftp and was incorporated into the software for the IRIWeb. The IRI indices files were updated with the newest solar and ionospheric indices.

   2. Corrected home pages, software, script files

```
Accesses for this month:
CGM ..................................... 587
IRI model ............................... 1768
MSIS model .............................. 1443
IGRF model .............................. 1545
TRAP particle model ........... 171
T89 model ............................... 3524
T96 model ................................ 422
Heliospheric Ephemerides . 743
IMP-8 daily position ............... 10
```

b. COHOWEB and OMNIWEB systems (data and software)

1. Updated some of the OMNIWeb pages

Accesses for OMNIWEB: plots/list/scatter: 788 / 680 / 3 = 1391

c. ATMOWEB system and FTPHelper (graphical browsing & retrieve FTP data)

1. FTPBrowser for new IMP-8 mag 15-sec data

2. FTPBrowser for new WIND 92-sec data

Accesses for this month (plotting/listing): 191 / 18 = 209

d. FTP site; maintenance, data aquisition and ingest

1. Generated new 15-sec. IMP-8 rate data set for Solar Wind interval only

2. Corrected 163 new 15-sec. IMP-8 daily data files: put into time order.

3. Downloaded new Wind_swe 2-min. files, from anon/rumba,
- created monthly files from 2-day files,
- checked files and downloaded these files to ANON/FTP site
- corrected documentation files
- Regenerated shifted hourly files from original 2-min res. files,
- Regenerated merged IMP/WIND/ACE hourly res files for OMNI-2 purposes.

e. Support the Main Space Physics home pages and other home pages service

1. Update some space physics home pages.

2. Found and fixed bug in the data_by_service.html page.

3. New TIMED home page and linked this page to Space Physics home page for searching "Data by spacecraft"

f. Bowshock Data Base/Interface

1. Wrote program to calculate some important parameters for Geotail

(Similar parameters were created for IMP-8 a year ago).

g. Special Task: Creating OMNI-2 data set:

1. Generated new LANL hourly files which include Alpha/Proton ratio

2. Generated new ACE hourly shifted files which include Alpha/Proton ratio

11. Support for the Offline Tape Archive Move to Online

A task scientist proposed a selected short list of machine representations to request first from the EAST people working on the generic translation to IEEE binary.

A task scientist finished listing the IDs and required actions (six pages of entries) for the non-automated changes to data set names to remove references to magnetic tape. Need to re-check these for verification, then give to operations personnel to implement. The list can be sorted into four or five lists, each of which does one specific action (such as "replace 'Tape' by 'File'") plus one list of "miscellaneous changes".

12. Meetings, Presentations, and Publications

a. A task scientist was selected as a member of the Science Definition Team for NASA's new Jupiter Icy Moons Orbiter mission to the satellites of Jupiter.

b. A task scientist was listed as a collaborator and provided input on space physics tasks for a lead science team proposal to be submitted by I. N. Reid of the Space Telescope Science Institute to the NASA Astrobiology Institute.

c. D. Bilitza was re-appointed as the URSI representative to the ICSU panel on World Data Centers.

d. A staff scientist was a Science Fair Judge at Herbert Hoover Middle School.

e. A paper was reviewed for Radio Science.

f. The issue of Advances in Space with selected papers from the 2001 IRI Workshop was finalized in consultation with the COSPAR editor-in-chief (M. Shea) and the Elsevier publisher (S. Kirton).

REQUEST HIGHLIGHTS:

a. Several requesters were assisted with inquiries regarding ITM data and models:

B. Beckley (RITSS) - IRI and indices;
J. Lillibridge (NOAA) - Update of IRI indices file;
R. Scharroo (NOAA) - Update of IRI indices file;
W. Soh (Malaysia) - IGRF coefficients;
J. Kelley (US Army) - Minimum software;
P. Ryan (Sandia Labs.) - MSIS;
S. Ribo (Spain) - L-shell computation;
J. Sondervan (The Netherlands) - MSIS.

b. Answered a request about ground beam spot or footprint for geostationary satellites used for communication.

c. Replied to requester looking for data and information on the Vela neutron detectors. We don't have any of that data, and little information about the detectors.

d. Responded to various other requests, and passed another one (about IMP8 identification in NEO catalog) on to the SSC staff. (See item 8b).

ACTIVITY LOG:

The NSSDC models sites on anonymous ftp and on the Web continue to be very popular:

ftp WWW

2002 RAID Model atm geom ion rad solar CGM IRI MSIS IGRF TRAP hpage

Jan 154622 4926 968 819 2377 324 273 1505 3399 8270 454 244 69610
Feb 116199 7092 1078 659 3651 619 525 1106 2322 41633 475 621 71078
Mar 164875 10177 1869 1462 4682 640 740 717 1659 5257 528 161 73074
Apr 245162 6863 1134 884 3665 353 319 899 2220 1162 1266 122 74803
May 275487 4426 754 537 2208 305 261 1050 8238 944 1346 93 76584
Jun 133327 6892 891 709 3693 388 371 47412641 1055 702 84 78218

ALL Model atm geom ion rad sol IRI MSIS CGM IGRF TRM
Jul 230906 8669 1559 993 4133 538 499 645 4486 570 491 42
Aug 229827 6819 1234 934 2869 521 485 701 1953 983 510 65
Sep 184116 10238 2034 1123 4441 691 754 587 1832 811 449 543
Oct 252019 8551 1664 1209 3327 744 609 996 4055 1075 917 330
Nov 247324 9864 2019 1221 4213 577 777 6439 1573 1382 717 466
Dec 304514 10440 1882 1131 4707 770 711 1281 1801 1127 549 250
2003 ALL Model atm geom ion rad sol IRI MSIS CGM IGRF TRM
Jan 262332 8413 1856 913 3524 582 715 1666 2045 715 677 150
Feb 301244 10566 2117 1389 4414 601 716 1768 1443 587 1545 171

==========

-------- ISIS -------------
Files GBy Total WWW I AE Aer DE Exp Hi I/A OGO SM SNOE
---------------------------I--------------------------------
Jan 26,410 15.1 531.6 5640 I1396 43154 11 44 13 47379 29035
Feb 10,342 6.1 537.7 5736 I 25 5 371 3 22 836 8 29 4176
Mar 20,492 12.0 549.7 5917 I 179 18 48 99 83 78 27 17 14263
Apr 17,460 9.2 558.9 6057 I 50 215 15 5 22 1 5 16365
May 19,126 15.4 574.3 6257 I 52 9 271K34 30 15 19 213 2

------ ISIS -----------

Files GBy Total I ITM TOPIST ATMOWeb
---------------------------------------------------------------
Jun 16,552 9.5 583.8 I 1,954 0
Jul 17,192 14.9 598.7 I 1,908 65,255
Aug 21,077 12.3 611.0 I 2,594 58,241
Sep 15,419 8.3 619.3 I 1,805 928
Oct 21,969 10.1 629.4 I 32,249 16,586 DE2/LAPI:11371, ISIS:19950
Nov 1,612 0.9 630.3 I 4,704 4 AE:3003 DE:993 ISIS:574
Dec 0 0 630.3 I
Oct 21,969 10.1 629.4 I 32,249 16,586 DE2/LAPI:11371, ISIS:19950
Nov 1,612 0.9 630.3 I 4,704 4 AE: 3003 DE:993 ISIS:574
Dec 0 0 630.3 I 18,326 2 AE:18088
Jan 0 0 630.0 I 2,232 0 DE: 1826
Feb 0 0 630.3 I 13,189 0 AE: 3032 DE:10039
---------------------------------------------------------------
ITM: AE-C,D,E, Aeros, Alouette, ISIS, DE-1,2, Explorer 22, 31,32,

```
Hinotori, SNOE, OGO-6, SanMarco
================================================================

WWW file and plot accesses for Jan.-Feb. 2003 (and the yearly totals)
for interplanetary COHO-related data from COHOWeb, CDAWeb, and NSSDCFTP:
Deep Space (Ulysses, Voyager, Pioneer, etc.): 3,243 {2003 Total: 3,243}
Geospace (IMP-8, Prognoz, ACE, WIND, SOHO): 71,142 {2003 Total: 71,142}
```

## UPCOMING MILESTONES/EVENTS:

1. A task scientist will give an invited talk on heliospheric interactions with comets in the outer solar system at the Kuiper Belt workshop meeting in Antofagasta, Chile during March 11-14, 2003.

2. T. Armstrong (U. of Kansas) announced that he will soon be sending over 200 CD's of high resolution energetic particle data from the Ulysses HISCALE experiment to NSSDC.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 11:02:37 EST [NAJ]*

# Task Assignment 99-301-00
# February 2003

## COMPUTER SYSTEMS MANAGEMENT TASK
## GSFC ATR - C. Barrett
## Raytheon ITSS Task Leader - J. Jacobi
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The objectives of this task are to provide systems analysis and technical support to the operational computer activities of the NSSDC; to maintain existing hardware and system-level software to ensure the optimal performance and utilization of its resources and connectivity to its computing sites; to integrate new hardware and system-level software into existing systems to achieve upgraded capabilities and state-of-the-art facilities; to administer specialized software such as data base and optical disk management systems; and to provide users with the necessary documentation, training, and assistance so that NCF resources are fully utilized.

**SIGNIFICANT EVENTS:**

During February 2003, systems group personnel:

- Set up a group of Majordomo lists to support the NSSDC equipment database initiative.
- Set up new virtual Web site called http://ssvl.gsfc.nasa.gov.

- Installed latest Java SDK (1.4.0) on rumba and configured this as the default version of Java. Also installed and configured the SUN Java Web Services developers pack on rumba.

- Researched e-mail problem that CDAWEB team was having. It was discovered that the domain in Brazil they were sending to was having DNS problems.

- Set up e-mail account and provided detailed response about configuration to Andy Dantzler.

- Discovered several CGI scripts on rumba that seemed unsafe. Spoke with CDAWEB team lead and we came to a determination that they could be removed. They have been removed.

- Working with SyncSort to re-host the enterprise backup server from rumba to ubatuba. Also found workarounds for all remaining backup and restore problems.

- Upgrading the Apache Web server on rings, and apache and tomcat on java. Also restricted access to java and to rings, and peformed disk maintenance on rings to deal with a full file system.
- Correcting X windows vulnerabilties.

- Attempting to set up a proof of concept for using ldap for single signon.
- Repartitioned the disk space available on delphi to allow patching and upgrades.

- Coordinated a hardware repair on trust, after which the operating system was reinstalled and all data and applications were restored.

- Developed a modification to the wu-ftpd FTP server to enhance security by immediately logging out non-anonymous users.

- Discussed requirements for a replacement for delphi.

- Continued to perform routine system administrative duties, including backups, application of confusing software upgrades and patches, providing assistance to users, and maintaining the IP spreadsheets and equipment database.

---

Return to Table of Contents Page

---

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Tuesday, 11-Mar-2003 16:27:52 EST [NAJ]*

# Task Assignment 99-302-00
# February 2003

## SYSTEMS NETWORKING AND SMALL SYSTEMS
## GSFC ATR - G. Goucher
## Raytheon ITSS Task Leader - R. Dunlap
## Raytheon ITSS Group Manager -

**TASK OBJECTIVE:** The objective of this task is to provide network engineering support to Code 600.

**SIGNIFICANT EVENTS:**

- Staff maintained and updated code 630 routers and access lists.
- Staff installed a Gigabit switch and router in building 26.
- Staff continues work to develop the Code 630 Web-based equipment data base.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 16:27:01 EST [NAJ]*

# Task Assignment 99-303-00
# February 2003

## NSSDC COMMON DATA FORMAT (CDF)
## GSFC ATR - D. Han
## Raytheon ITSS Task Leader - M. Liu
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** The objectives of this task are to carry out computer science research, develop computer software and provide user support for the NSSDC Common Data Format (CDF).

### SIGNIFICANT EVENTS:

1. A new set of CDF distribution including Java-based tool programs were released. For Mac OS X, a pre-built distribution is added for non-developers who only want to have access to CDF files. The file structure for the Windows version has been regrouped to include more information. The command-line tools in the Java-based tool package were enhanced to ensure a proper environment variable is set before any of the tools is run. A modification is made to avoid using the Mac OS X's Aqua as the user interface.

2. Staff handled three user questions/requests this month.

### CONCERNS AND PROBLEM AREAS:

1. The GZIP compression/decompression option is turned off for 16-bit DOS/Windows 3.x due to its memory constraint.

2. An unusual problem occurs with the older Microsoft C 7.00 compiler in one of the EPOCH parsing routines on DOS/Windows 3.x. The problem occurs while using the floating point functions and type casting. It is suspected that the Microsoft executables may be getting too large and will require memory overlaying.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 10:58:21 EST [NAJ]*

# Task Assignment 99-304-00
# February 2003

## PLES
## GSFC ATR - N. James
## Raytheon ITSS Task Leader - Dr. D. Williams
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** The objectives of this task are to maintain data bases and metadata (NMC, WWW) for planetary, Earth sciences, and selected astrophysics data (HEASARC, EUVE, HST), provide request support and coordinate updates of user interfaces, coordinate WWW activities, support internal and external data base users, assure data set quality, coordinate planetary data acquisition and Earth science data transition, support educational activities, and coordinate publications.

**SIGNIFICANT EVENTS:**

- The NSSDC WWW server had a total of 12,127,248 error-free accesses logged for February 2003, a decrease of eight percent compared to January 2003.
- Task staff responded to more than 170 e-mail queries and telephone calls from external users and the Request Office.
- Task member updated information in the NSSDC Master Catalog for PSPA-00296 (Galileo SSI CD-ROM set) after receiving what is likely the last disc of data in the set.
- Task personnel added 19 new Voyager 1 and Voyager 2 Jupiter images to the Catalog of Spaceborne Imaging.
- Task staff made changes to several about pages and Earth Science pages to: (a) update the "NASA Official" name to Don Sawyer; (b) make them HTML and Section 508 compliant; (c) uniformize their appearance; (d) update obsolete information; and, (e) include policy/access disclaimers.
- A task member created a favicon.ico image file for the Web site.
- Task staff updated the jovian satellite and Pluto fact sheets.
- Task personnel updated spacecraft records for the Mars Exploration Rovers.
- Task staff worked on the IMPACT Web site, creating html pages and images for the educational project.
- Task member updated information in the Pioneer 10/11 supplemental file for J. Cooper (Raytheon ITSS).

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 16:21:15 EST [NAJ]*

# Task Assignment 99-305-00
# February 2003

## NASA SCIENCE OFFICE OF STANDARDS AND TECHNOLOGY (NOST)
## GSFC ATR - D. Sawyer
## Raytheon ITSS Task Leader - J. Garrett
## Raytheon ITSS Group Manager - J. Kodis

**TASK OBJECTIVE:** The objective of this task is to maintain and expand the NOST so that it can effectively respond to the standards needs of the NSSDC community.

**SIGNIFICANT EVENTS:**

**NOST Archiving Tools Suite** - Staff has

- Continued coding the first version of the Multifile Package Group Analyzer (MPGA) tape packaging software. The first version of the Module Library is complete. Mapped out the functionality of the By Directory Module and the Templates Library.
- Participated in both general and detailed meetings regarding the upcoming tape migrations. Discussions at the general meetings centered on work flows, schedules and outstanding issues. Discussion at the detail level centered on determining process for generating and assigning ADID numbers. Also held internal discussions discussing design, features, and status of software.
- Met to discuss content required to be included in data description registrations for the migration effort. A variety of processes and interfaces to be used to submit the registration information and obtain registration numbers back were discussed.

**ISO Data Archiving** - Staff has

- Review the Producer-Archive Interface Specification at a high level.

**CCSDS On-Line Information System** -

- Information for the CCSDS 2003 Spring meetings has been made available.
- Public and private work areas for each CCSDS Subpanel and Working Group have been set up in the Docushare Document Management System.

**CCSDS Standards** - Staff has

- Reviewed the CCSDS Reorganization Proposals. Provided RIDs on the first draft. Provided feedback on the updated proposal.
- Reviewed the two new versions of the *Orbit Data Messages* document. Determined that neither of them sufficiently separated the syntax and semantics. Began work on developing an abstract definition of attributes used in the *Orbit Data Messages* document.

**Goddard Technical Standards Coordination** - Staff has

- Participated in the GSFC Standards Coordination Working Group meeting.
- Updated the web site to detail a number of completed and upcoming GSFC reviews of standards.

**STATISTICS: CAOIS:** As of 28 February 2003, there were 442 Data Description registration numbers assigned. Of these about 30 of the Data Description registration numbers are reserved for NSSDC use during the Cygnet migration, 45 are reserved for IMAGE ingest, 26 for ISIS ingest, and 2 for Skylab. Data Description Packages for these must be generated.

**UPCOMING MILESTONES/EVENTS:**

**NOST Archiving Tool Suite:** Staff will

- Complete coding the first version of the Multifile Package Group Analyzer (MPGA) tape packaging software. This includes coding the main parts of the "VMS-By-Directory", "AIP-Generator", and "VMS-File Getter" Modules.
- Begin coding the multi-file version of the AIP Extractor.
- Continue to participate in tape migration meetings.
- Continue discussions on data description registration processing.

**CCSDS XML Group:** Staff will

- Participate in NASA and GSFC XML Working Group meetings.
- Continue low level of support for possible CCSDS XML prototype effort.
- Participate in upcoming joint CCSDS and OMG meetings, when convenient.

**CCSDS Standards:** Staff will

- Continue review of the CCSDS Reorganization Proposals and provide formal comments as part of the GSFC response, as required.
- Continue work to generate an updated *Orbit Data Messages* standard, which would contain separate semantics and syntax sections. Propose updates using PVL and XML for the syntax.

**Goddard Technical Standards Participation:** Staff will

- Participate as needed in the GSFC Standards Working Group, the NASA Data System Standards Council and the GSFC Standards Review Boards.
- Continue updates for the web site for GSFC Standards Coordination. Update web site to reflect updated standards management.

**CAOIS:** Staff will

- Register new data description packages as they are submitted. Note that Cygnet migration, IMAGE ingest, ISIS ingest, and Skylab descriptions still need to be submitted.

**Formats Evolution Process** - Staff will

- Updating the FEP Web site if any new material is submitted.

**ISSUES:**

- Overall the CCSDS Reorganization is flawed in concept and implementation in the view of many GSFC participants. If the current CCSDS Reorganization Proposal is adopted, it will likely have negative impacts on our CCSDS work. In fact, the some of the current proposal would eliminate much of our CCSDS work as being out of the CCSDS scope and would no longer fund it. We are continuing to work to counter these views.

---

Return to Table of Contents Page

---

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Friday, 07-Mar-2003 10:51:08 EST [NAJ]*

# Task Assignment 99-306-00
# February 2003

## INFORMATION (METADATA) SYSTEMS DEVELOPMENT AND UPGRADES
## GSFC ATR - Dr. J. Thieman
## Raytheon ITSS Task Leader -
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** The objectives of this task are to define and develop information systems and the interfaces thereto, maintain these systems and interfaces and support the generation of reports therefrom, and recommend and participate in the planning of upgrades to necessary support systems and software as appropriate.

**SIGNIFICANT EVENTS:**

- Task staff reviewed the design and flow of the GUI(s) needed to address the dataset information for a given media; specifically how users will add, update and search on this information as well as the design adaptation for the JinController class.

- The JIN Software Requirements Specification was updated to include information regarding: the sign-in/-out process; new dataset and printing requirements; and add/update media dataset use case specifications.

- Skeletal Java code was generated for all the necessary classes related to the sign-in/-out processes, from Rational Rose class diagrams, and imported into JBuilder.

- The view VIEW_MED_TAPE was created and a stored procedure and JDBC code were written to retrieve information.

- Errors in the build script for the Med_tape table were fixed.

- The dataset report and the print option were both modified to allow users to view or suppress released items.

- The credit card information on the CD-ROM Catalog was updated at the request of CRUSO personnel.

- One new CD-ROM (Galileo) was added to the CD-ROM Catalog.

- A task member participated in planning for a series of upcoming meetings (in Washington, D.C., and France) for SPASE.

- A bug reported by P. Ross (QSS) in Satx/Filex (related to NSSDC IDs beginning with a letter) was fixed.

**UPCOMING MILESTONES/EVENTS:**

- Work will continue on JIN.
- An upgraded version of the Task Request system will be implemented.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Tuesday, 11-Mar-2003 11:03:56 EST [NAJ]*

# Task Assignment 99-307-00
# February 2003

## SUN-EARTH CONNECTION EDUCATION FORUM (SECEF)
## GSFC ATR - Dr. J. Thieman
## Raytheon ITSS Task Leader - Dr. S. Odenwald
## Raytheon ITSS Group Manager - L. Mayo

**TASK OBJECTIVE:** The objective of this task is to provide administrative support of the SECEF managers and assistance in preparing for educational outreach events, seek opportunities to leverage SECEF activities for broad national impact, and assist in publicity for the SECEF by developing content for a Web site and publications.

**SIGNIFICANT EVENTS:**

- Staff is planning for 2004 Venus Transit. Staff is drafting an events and programs planning document.
- Staff video taped NASA/CONNECT Northern Lights program in Norway.
- A staff member is working on the P2K event for the Sun Earth Day, February 11, 2003.
- A staff member is working on the Student Observation Network workshop which will be held on February 11, 2003. Visitors will be touring seven of the 10 NASA centers.
- A staff member provided two workshops for a teacher at the Maryland Science Center on February 20, 2003. Content was provided by Dr. Jim Green. A staff member created the follow-up application. Only ten teachers were involved, probably due to the weather, they had expected 40 attendees.
- A second workshop will be held on February 22, 2003 to provide training on the Student Observation Network and the Sun-Earth Day. Fourteen attendees are registered.
- On February 22, 2003, the Imaginarium in Alaska and Fernbank Museum in Georgia will host a live telecast, "Live from the Poker Flat, Alaska". Museums can participate by watching the telecast.

**UPCOMING MILESTONES/EVENTS:**

- Staff will continue with execution of the 2003 Sun-Earth Day.
- Staff will continue with planning for Venus Transit 2004.
- Continue with scheduled EPC meetings.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Wednesday, 12-Mar-2003 17:01:29 EST [NAJ]*

# Task Assignment 99-312-00
# February 2003

## ANALYSIS SUPPORT FOR THE IMAGE MISSION
## GSFC ATR - Dr. J. Green
## Raytheon ITSS Task Leader - L. Garcia
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** The objectives of the Analysis support for the IMAGE Mission task are to maintain and update local copies of the IMAGE software suite, create RPI data analysis software, and to create software to be used in correlative studies between IMAGE detectors and between IMAGE and other missions. This task will also support the synthesis of data and theory in the study of Earth's magnetosphere through creation of unique data products and services. This task will make available appropriate documentation for all of these objectives and will support the IMAGE Science Center Web site.

**SIGNIFICANT EVENTS:**

- Staff revised the publication pages to display only referred publications on the main page and abstracts on a separate page for 2002 and 2003.

- Staff created and posted a new award page for William Gibson's public service medal.

- Staff added ten new references, updated two references on the publication pages.

- Staff made daily spectrograms for the RPI instrument available on the IMAGE Science Center site for January 2003.

- Staff updated the IMAGE Science Center meetings page, moving one January and one February meeting to the "Past Meetings" section.

- Staff worked on adding annual plots of weekly accesses to the IMAGE Science Center and POETRY Web sites.

- Staff met with IMAGE RPI members to discuss how to improve the interface on the CDAWeb for IMAGE RPI data sets. Also discussed necessary documentation changes and additional information to be included on the images. RPI staff was contacted at the University of Lowell for clarification of data fields meanings in the CDFs. Staff began work on a history of the operational programs onboard IMAGE-RPI and their changes with time. This work made use of the IMAGE RPI K0 and K1 CDFs. T. Kovalick implemented several of the changes recommended during the meeting.

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 10:32:45 EST [NAJ]*

# Task Assignment 99-313-00
# February 2003

## COMMUNITY COORDINATED MODELING CENTER
## GSFC ATR - Dr. M. Hesse
## Raytheon ITSS Task Leader - M. Kuznetsova
## Raytheon ITSS Group Manager - T. Kovalick

**TASK OBJECTIVE:** This task will provide science and software support for Community Coordinated Modeling Center (CCMC). Specific support includes developing and testing of simulation codes for space weather models, performing simulations of realistic space weather events, providing visualization and analysis software, performing comparison of modeling results to satellite measurements, performing research in space plasma physics.

**SIGNIFICANT EVENTS:** Staff added new options to Run on Request Service, that CCMC provides to the research community. Run on demands using the BATSRUS magnetosphere model now can include satellite position data provided by the requester. For each satellite, the interpolated MHD variables are written for a large number of times during the simulation run (e.g. every 15 seconds).

Return to Table of Contents Page

***Curator:*** *Natalie Jaquith*
***Responsible Official:*** *Donald M. Sawyer, Code 633*
***Last Revised:*** *Thursday, 06-Mar-2003 12:42:11 EST [NAJ]*